

REMARKS / ARGUMENTS

I. General Remarks

Applicants respectfully request that the above amendments be entered and further request reconsideration of the application in view of the amendments and the remarks contained herein.

II. Disposition of the Claims.

At the time of the Office Action, claims 12-17 were pending. Claims 12-17 stand rejected. Claim 12 has been amended herein. Applicants respectfully submit that these amendments add no new matter to the application and are supported by the specification as originally filed. All the above amendments are made in a good faith effort to advance the prosecution on the merits of this case.

III. Remarks Regarding Rejections Under 35 U.S.C. § 112, second paragraph.

Claims 12-17 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Specifically, the Office Action states that “[t]here is not basis in the originally filed specification for the newly recited ‘by weight of the resin composition’ with regard to the instantly claimed components. (Office Action at 2.) Applicants have amended claim 12 herein to recite the limitation of “by weight of the overall resin composition.” Therefore, Applicants respectfully request removal of this rejection with respect to claims 12-17.

IV. Rejections of Claims Under 35 U.S.C. § 103(a)

Claims 12-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,785,884 issued to Armbruster (hereinafter “*Armbruster*”) in view of U.S. Patent No. 4,042,032 issued to Anderson *et al.* (hereinafter “*Anderson*”). With respect to this rejection, the Office Action states:

Armbruster discloses the instantly claimed compositions and amounts, except for the use of the instantly claimed amount of surfactant, at the abstract; column 3, lines 36-68; column 4, lines 1-68; column 5, lines 1-68, particularly 25-40 which falls within the scope of the instantly claimed silane coupling agent of claims 12 and 13, and 59-62 which falls within the scope of the instant claim 15; column 6, lines 1-68, particularly 3-16 which encompasses the solvents of the instant claims 16-17, 39-57 of which the amounts of lines 56-57 fall within the scope of those of the instantly claimed furfuryl alcohol and phenol amounts and imply the amount of the

instantly claimed phenol formaldehyde, of which the instant claims do not exclude comonomers such as furfuryl alcohol from and lines 60-65 encompasses the instantly claimed amount of silane coupling agent; column 7, lines 1-46, particularly 29-34 which also encompasses the instantly claimed amount of silane coupling agent; and the remainder of the document. It would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the instantly claimed amounts of surfactant of the instant claims 12 and 14 in the compositions of *Armbruster* because they are known to give the benefits disclosed in *Anderson* et al., column 6, lines 13-30 and the instantly claimed amounts of the surfactants of *Anderson* would have been expected to impart these benefits to the compositions of *Armbruster*.

(Office Action at 3-4.)

To form a basis for a § 103(a) rejection, a combination of prior art references must teach or suggest each element in the claim in such a way that enables a person of ordinary skill in the art to make or use the claimed invention. MPEP §§ 2141.01(II) & 2142 (2004). Applicants have amended claim 12 in this response to recite that the claimed proppant coated with a resin composition is produced by a method comprising: providing a resin composition...providing proppant particles; coating the resin composition onto at least a portion of the proppant particles to create resin-coated proppant particles; *introducing the resin-coated proppant particles into a subterranean fracture; and allowing the resin on the resin-coated proppant in the subterranean fracture to substantially cure.*" (Emphasis added.) However, Applicants respectfully assert that the combination of *Armbruster* and *Anderson* does not teach or suggest each of these elements.

Rather than disclosing these method steps, *Armbruster* provides that "liquid phenol-formaldehyde-furfuryl alcohol resin is mixed with the proppant material at a temperature of about 225°-450° F until the resin partially cures to a state where it would solidify at room temperature." *Armbruster*, col. 4, lines 29-33. Moreover, *Armbruster* further provides that:

[t]he proppant material coated with the curable phenol-formaldehyde-furfuryl alcohol resin can now be used as a proppant in a well fracture zone or for sand control. It can be suitably dispensed therein and overflushed with a solvent system such as an acetone-water solution, which contains the acidic catalyst used *to complete the cure of the curable resin*, dissolved therein.

Armbruster, col. 5, line 63- col. 6, line 2, (emphasis added). Thus, the resin coated proppant of *Armbruster* is partially cured *prior to* placement in a subterranean formation. However, Applicants' resin coated proppant cures when placed *in a subterranean fracture*. Nor does *Anderson* teach or suggest modifying *Armbruster* to supply the missing recitations.

Moreover, *Armbruster* arguably teaches away from a method that involves curing the resin on the proppant in the subterranean fracture. As mentioned above, the coated proppant described in *Armbruster* is specifically prepared by a method involving "partially curing the resin to a state where it would solidify at room temperature." *Armbruster*, col. 4, lines 32-33. *Armbruster* further provides that: "a 'working' length of time is needed to coat the liquid resin on the sand and cure it to the point where it would be a *solid* at room temperature." *Armbruster*, col. 4, lines 35-38, (emphasis added). Thus, the methods of *Armbruster* teach the importance of curing the proppant particles prior to use in order to form individual particles coated with a *solid* thermosetting resin. A person skilled in the art would not be motivated to modify *Armbruster* to allow the resin on such proppant particles to cure in the subterranean fracture since, as Applicants' specification notes, when conventional pre-cured resin completes curing once placed in the subterranean formation, the resulting consolidated proppant pack often does not have enough strength to prevent deterioration of the proppant pack and proppant flowback. (See Specification at [0004]). Thus, *Armbruster* in view of *Anderson* does not obviate Applicants' claims 12-17. Therefore, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection as to independent claims 12 and correspondingly as to dependent claims 13-17.

V. No Waiver

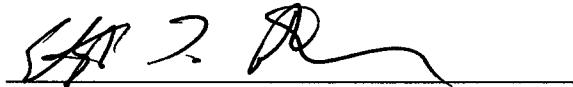
All of Applicants' arguments and amendments are without prejudice or disclaimer. Additionally, Applicants have merely discussed example distinctions from the cited references. Other distinctions may exist, and Applicants reserve the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner's additional statements, such as, for example, any statements relating to what would be obvious to a person of ordinary skill in the art. The example distinctions discussed by Applicants are sufficient to overcome the obviousness rejections.

SUMMARY

In light of the above remarks, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections. Applicants further submit that the application is now in condition for allowance, and earnestly solicit timely notice of the same. Should the Examiner have any questions, comments or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone, facsimile, or electronic mail.

Applicants believe that there are no fees due in association with the filing of this Response. However, should the Commissioner deem that any fees are due, including any fees for extensions of time, Applicants respectfully request that the Commissioner accept this as a Petition Therefor, and direct that any additional fees be charged to Baker Botts L.L.P. Deposit Account No. 02-0383, Order Number 063718.0172.

Respectfully submitted,



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